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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/131,141	08/07/98	KALKUNTE	M 82771P.270

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EXAMINER

DUONG, F

ART UNIT

PAPER NUMBER

2664

DATE MAILED: 08/14/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/131,141

Applicant(s)

KALKUNTE ET AL.

Examiner

Frank Duong

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 1998.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This Office Action is a response to the communication dated 08/07/1998. Claims 1-22 are pending in the application.

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-8, 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 7, lines 1-2, "the buffer order" and "the order of frame transmission" lack of antecedent basis. Moreover, the claim either fails to further limit the parent claim 1 or not functionally interconnected to the claimed limitations of the parent claim 1. It is also unclear what claimed steps of the method the "wherein ... transmission" clause modified.

Regarding claim 8, line 2, "the order" lacks of antecedent basis. Moreover, the claim either fails to further limit the parent claim 1 or not functionally interconnected to

the claimed limitations of the parent claim 1. It is also unclear what step/element does the "read" the frames "out of the buffer".

Regarding claim 12, "the indication", recited on line 2, lacks of antecedent basis as well as fails to further limit the parent claim. Thus, claim 12 is an improper dependent claim. Should it depend on claim 10, claim 12 will become a proper dependent claim.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 09/270,011. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matters of claims 1-22 of the instant application encompasses the claimed invention of claims 1-18 of the above copending patent application.

Take for instant:

Claim 1 of the instant application calls for "*A method for preserving frame order of a plurality of frames transmitted over a plurality of communication links, the method comprising:*

*receiving up to a plurality of indications denoting the **start of frame transmission on a corresponding plurality of communication links**; and*
*assigning a **pointer value** to each of a plurality of records in a **buffer** receiving the corresponding plurality of frames based, at least in part, on a relative order in which the indications are received*".

Claim 1 of the above copending application calls for "*A method for preserving frame order across an aggregated link comprised of a plurality of virtual links each supporting a particular transmission rate, the method comprising:*

*receiving up to a plurality of indications denoting **commencement of frame transmission on each of the virtual links**; and*
*assigning a **plurality of pointer values** to a corresponding plurality of records in a **pointer value buffer associated with each of the virtual links based, at least in part, on the relative order in which data frames are transmitted on each of the virtual links***".

As clearly corresponding in the bolded words above, the differences between claim 1 of the instant application and claim 1 of the copending application are the wording. Thus, the provisional obviousness-type double patenting rejection of claim 1 is proper.

Other independent claims in the instant application are rejected by the same rationale applied to claim 1.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 09/271,008. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matters of claims 1-22 of the instant application encompasses the claimed invention of claims 1-20 of the above copending patent application. Evidence can be, explicitly or obviously, found by comparing the independent claims of the instant application against the independent claims of the above copending patent application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 9, 11, 14, 19-20 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Simmons et al. (USP 6,192,028) (hereinafter "Simmons").

Regarding claim 9, in according to Figure 1-3, 9, col. 6, line 5 to col. 10, line 12, Simmons discloses an apparatus (Figures 2A-2B) comprising:

A buffer having a plurality of records (32);

A network interface (28, 42, 66 and 70), coupled to the buffer (32), to receive a plurality of frames from the plurality of communication links (col. 6, lines 5-20, elements 60, 62 and 36), to store the frames in a corresponding plurality of records within the buffer in order of receipt (col. 7, lines 47-56), and to assign a pointer value to each of the plurality of records denoting a relative order of frame transmission of each of the plurality of frames (col. 8, lines 21-43).

Regarding claim 11, at col. 6, lines 5-21, Simmons discloses that MAC 60, 62 and 36 (corresponding to "communication links") are part of multiport switch 12 (corresponding to "Ethernet network").

Regarding claim 14, in according to col. 8, lines 34-43, Simmons discloses buffer manager 65 takes the assigned frame pointer from the bottom of the output queue 67 using a frame pointer read bus 86, fetches the corresponding data frame in a DMA transaction from the location in an external memory 36 pointed to by the assigned frame pointer, and places the fetched data frame into the appropriate transmit FIFO 66 via a data bus 82 for transmission. Thus, the recitation thereat reads on the claimed limitations set forth as claimed.

Claims 19-20 and 22 are rejected by the same rationale applied to claims 9-11 and 14 as discussed above because the claims call for an intended use of apparatus of claims 9-11 and 14 in a multi-link trunk network.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8, 10, 12-13, 15-18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Simmons in view of Frazier et al. (USP 5,784,559) (hereinafter "Frazier").

Regarding claim 1, in according to Figures 2-4, col. 6, line 5 to col. 10, line 12, Simmons discloses a flow control method (corresponding to "method for preserving frame order of a plurality of frames" in a half duplex Ethernet network (Figure 2) (corresponding to "plurality of communication links"), the method comprising, among other things: assigning a pointer value to each of a plurality of records in a buffer receiving a corresponding plurality of frames based, at least in part, on a destination port (note: col. 8, lines 21-43, Simmons discloses rules checker 42 or 68 places the port vector and the corresponding frame pointer into the port vector FIFO 63. Then, the port vector FIFO 63 assigns the frame pointer to the appropriate destination port(s) by

placing the frame pointer into the top of the appropriate output queue 67 (corresponding to claimed "based on a relative order in which the indications are received" because the frame pointer is placed into the top of the output queue 67). Thus, the recitation thereat reads on the claimed limitation set forth.)

Note that Simmons, in according to col. 6, lines 50-56, also discloses one of the advantages of using external rule checker 44 is increasing the capacity of the network. Moreover, Simmons, in according to Figure 2A, also shows signal RX_DVB, as known in the Gigabit Ethernet world is Received Data Valid signal, when enable causes MII 28 in the interface 12 to receive data on RXDB.

Simmons fails to explicitly discloses the step of receiving up to a plurality of indications denoting the start of frame transmission on a corresponding plurality of communication links. However, the step of receiving up to a plurality of indications denoting the start of frame transmission on a corresponding plurality of communication links is well known and discloses by Frazier.

In according to Figures 1, 3C-3D and 6, the abstract and col. 6, lines 6-9, col. 9, line 31 to col. 10, line 24, and col. 13, lines 39-42, Frazier discloses flow control method in a full duplex Ethernet network comprising, among other steps, the step of receiving up to a plurality of indications denoting the start of frame transmission on a corresponding plurality of communication links (note: col. 6, lines 6-9, Frazier discloses when RX_DV is asserted on the MII, MAC receive processing logic accepts and process data from the physical layer, and then passes the processed data to the logical link control layer and col. 13, lines 39-42, Frazier discloses the receive carrier sense

variable may be derived directly from the MII signal RX_DV, and is used to indicate incoming bits. Thus, the recitation thereof corresponding to the step of receiving).

Thus, it would have been obvious to a skilled artisan at the time of the invention to implement Frazier's teaching into Simmons' method to provide a flow control mechanism for a full-duplex Ethernet network as well as increasing the network capacity.

Regarding claims 2-3 and 7-8, in accordance with '028, col. 8, lines 34-43, Simmons discloses "the buffer manager 65 takes the assigned frame pointer from the bottom of the output queue 67 using a frame pointer read bus 86, fetches the corresponding data frame in a DMA transaction from the location in external memory 36 pointed to by the assigned frame pointer" corresponding to the claimed limitations set forth.

Thus, Simmons in view of Frazier discloses the claimed limitations set forth as claimed.

Regarding claims 4-5, see '559, Figures 3C-3D, wherein Frazier shows RX_DV (corresponding to claimed limitation of "indication") is an analog indication. Thus, Simmons in view of Frazier discloses the claimed limitations set forth as claimed.

Regarding claim 6, see '028, col. 7, lines 47-56, wherein Simmons discloses frames (each of which comprising header and type/length information) are received by the internal MAC engines 60, 62, or 36 and placed in the corresponding receive FIFO 64, corresponding to the claimed limitation set forth. Thus, Simmons in view of Frazier discloses the claimed limitations set forth as claimed.

Regarding claims 10 and 12-13, they are rejected by the same rationale applied to claims 1 and 4-5 as discussed above.

Regarding claims 15-18, the claims are rejected by the same rationale applied to claims 1-6 as discussed above because the claims call for an intended use of the method of claims 1-6 in a multi-link trunk network.

Regarding claim 21, the claim calls an intended use of the apparatus of claim 10 in a multi-link trunk network. Thus, it is rejected by the same rationale applied to claim 10.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hendel et al. (USP 6,049,528);

Frazier et al. (USP 6,029,202) ;

Petersen et al. (USP 5,307,459) ;

Muller et al. (USP 6,044,087) ;

Feuerstraeter et al. (USP 6,154,464) ;

Bellenger (USP 5,802,054) ;

Cullerot et al. (Link Aggregation Some Requirements and Consideration, IEEE 802.3 Trunking Study Group, pages 1-14, February 1998);

Congdon (Some Objectives for Link Aggregation, IEEE 802.3 Trunking Study Group, pages 1-10, March 1998).

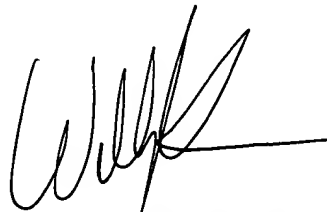
9. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Frank Duong whose telephone number is (703) 308-5428. The examiner can normally be reached on 7:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (703) 305-4366. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Frank Duong
August 12, 2001



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